

Material Safety Data Sheet (MSDS) for TPA (Phorbol-12-Myristate-13-Acetate)



Cell Signaling
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I. Identification

Product name: TPA (Phorbol-12-Myristate-13-Acetate)

Synonyms: PMA

II. Ingredients

Product is supplied as a 200 µM solution in dimethyl sulfoxide (DMSO)

	Composition
Phorbol-12-Myristate-13-Acetate	<0.1%
CAS # 16561-29-8	
Formula: C ₃₆ H ₅₆ O ₈	
Molecular weight: 616.84 g/mol	
DMSO	>99%
CAS # 67-68-5	
Formula: C ₂ H ₆ OS	
Molecular weight: 78.13 g/mol	

III. Physical Data

To the best of our knowledge, the physical properties of this product have not been investigated. Values given are for dimethyl sulfoxide (DMSO).

Boiling point: 189°C

Melting point: 18.4°C

Flash point: 95°C

Vapor pressure: 0 kPa (at 20°C)

Vapor density: 2.71 (air = 1)

Specific gravity: 1.101 (water = 1)

Density: 1.1 g/ml

Solubility in water: Miscible

Appearance: Clear solution

IV. Fire and Explosion Hazard Data

Extinguishing media: Carbon dioxide, dry chemical, water spray or foam.

Special fire fighting procedures: If involved in fire, don NIOSH/MSHA approved self-contained breathing apparatus, flame/chemical resistant.

Unusual fire and explosion hazards: DMSO is a combustible liquid. This solution can emit toxic fumes under fire conditions.

V. Health Hazard Data

To the best of our knowledge the toxicological properties of this product have not been investigated. Data given is for dimethyl sulfoxide (DMSO).

Acute toxicity:

LD50 oral rat: 14500 mg/kg

LD50 oral mouse: 7920 mg/kg

Acute effects of overexposure: May cause skin, eye and upper respiratory irritation. May be harmful if swallowed or absorbed through skin.

Chronic effects of overexposure: May be harmful to the skin and eyes.

Emergency and First Aid Procedures

Swallowing—If swallowed, wash mouth out with water and call a physician.

Skin—If skin contact occurs, immediately wash skin with soap and water.

Inhalation—If inhaled, remove to fresh air. If not breathing, perform CPR and call a physician.

Eyes—If eye contact occurs, flush eyes with water for at least 15 minutes. Assure adequate flushing by separating eyelids with fingers. Consult a physician.

VI. Reactivity Data

Stability: To the best of our knowledge, this product is stable under normal working temperatures and pressures.

Incompatibility/Materials to avoid: Oxidizing agents, reducing agents, strong acids and moisture.

Combustion/Decomposition products: Carbon monoxide, carbon dioxide and sulfur oxides.

Hazardous polymerization: To the best of our knowledge hazardous polymerization will not occur.

VII. Spill or Leak Procedures

Steps to be taken if material is spilled or released: Wear protective gloves, lab coat and safety glasses. Use vermiculite or another suitable absorbent to clean up the spill. After cleanup, wash down the spill site with water and ventilate the area. Place all contaminated materials in an appropriate waste container and dispose of in accordance with federal, state and local regulations.

Waste disposal method: Add waste to a combustible solvent and burn in an EPA-licensed chemical incinerator equipped with an afterburner and scrubber.

VIII. Handling and Storage

Handling: Avoid contact with skin, eyes and clothing. Protective gloves, lab coat and safety glasses should be worn when handling this product.

Storage: Store at or below -20°C.

IX. Exposure Control/Personal Protection Information

Wear protective gloves, safety glasses and lab coat when working with this product. An eyewash station and safety shower should be in proximity to the work area. Use with mechanical exhaust and ensure that all ignition sources are removed from the area before working with this product. Please dispose of all waste in accordance with federal, state and local regulations.

This product is sold in small quantities for biological research. No other use is intended, and any other use may involve substantial hazards. The use of this product should be familiar with the toxicology of organic chemicals and well trained in good laboratory habits.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide for experienced personnel. Cell Signaling Technology, Inc., shall not be held liable to any damage resulting from the handling of or from contact with the above product. The burden of safe use of this material rests entirely with the user.

Revised: October 2002